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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,392	08/06/2003	Mohammad Shahabuddin	CIT.PAU.40	1184

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EXAMINER

DAY, HERNG DER

ART UNIT	PAPER NUMBER
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2128

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/635,392	Applicant(s) SHAHABUDDIN ET AL.	
	Examiner Herng-der Day	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8, 10-16, 18-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 5-8, 10-13, 18-21 and 23-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Applicants' Amendment ("Amendment") to Office Action dated October 5, 2006, filed January 5, 2007, and received by PTO January 8, 2007.

1-1. Claims 2, 5-8, 14-15, and 18-20 have been amended. Claims 4, 9, 17, and 22 have been canceled. Claims 1-3, 5-8, 10-16, 18-21, and 23-26 are pending.

1-2. Claims 1-3, 5-8, 10-16, 18-21, and 23-26 have been examined.

Drawings

2. The formal drawings filed on January 29, 2007, are objected to for the following reasons. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include **all** of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicants will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2-1. It appears that all the "Velk", as shown in FIGs 2, 3, and 6 should be "Vclk".

Claim Objections

3. Claim 15 is objected to because of the following informality. Appropriate correction is required.

3-1. Regarding claim 15, "based on the operating system and the workstation hardwire", as described in lines 5-6 of the claim. (Emphasis added.)

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hellestrand et al., U.S. Patent 6,230,114 B1 issued May 8, 2001.

5-1. Regarding claim 1, Hellestrand et al. disclose a virtual real time system for simulating a physical test environment comprising:

A master computer module (the interface mechanism, column 14, lines 36-43); and
at least one slave computer module communicated to the master computer module and having a clocked operation, which is synchronized to the master computer module (processor1 simulator 208, FIG. 2);

wherein the master computer module and at least one each slave computer module each have a launcher submodule (the kernel in the interface mechanism, column 14, lines 36-43) and a deployment submodule (hardware simulator 203, FIG. 2), the launcher submodule for launching

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the deployment submodule and controlling the deployment submodule for synchronized operation with the master computer module, the deployment submodule generating a virtual clock and following commands from the launcher submodule (each processor simulator has its own concept of time, as does the hardware simulator, column 8, lines 51-57).

5-2. Regarding claim 2, Hellestrand et al. further disclose the virtual real time system of claim 1 embodied in a workstation running under an operating system (Such workstations ... may operate under any operating system (OS), column 7, lines 25-40) and where the launcher submodule in the master computer module is a scalable central virtual real time controller for the virtual real time system dependent on the operating system and the workstation hardware (The interface mechanism is programmed to handle the communication between the processor simulator host processor, and the other host processors executing the processor simulator, column 11, lines 22-32).

5-3. Regarding claim 3, Hellestrand et al. further disclose where the deployment submodule in the master computer module generates a virtual clock signal based on process CPU instruction execution (each processor simulator has its own concept of time, as does the hardware simulator, column 8, lines 51-57).

5-4. Regarding claims 14-16, these method claims include equivalent limitations as in claims 1-3 and are anticipated using the same analysis of claims 1-3.

Allowable Subject Matter

6. Claims 5-8, 10-13, 18-21, and 23-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants' Arguments

7. Applicants argue the following:

(1) "It is clear that the interface mechanism 119 of Hellestrand is a communications module for passing information between the processor simulator and hardware simulator." (Page 15, paragraph 2, Amendment).

(2) "The functional relationship of the target hardware and processor is preserved whether or not the execution is actually running in real time or not. ... Interface mechanism 119 does not perform this function." (Page 15, paragraph 2 through page 16, paragraph 1, Amendment).

(3) "The claimed system is coordinated to a virtual real time controller dependent on the operating system environment for which there is no equivalent in Hellestrand, which instead is temporally synchronized to the hardware simulator which seeks to simulate real hardware time." (Page 17, paragraph 1, Amendment).

(4) Hellestrand does not disclose the claimed invention (Pages 17-22, Amendment).

Response to Arguments

8. Applicants' arguments have been fully considered.

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8-1. Applicants' argument (1) is not persuasive. As described in column 14, lines 37-39, "in the preferred embodiment first starts the kernel in the interface mechanism. The kernel thus starts the hardware simulation as a task." Furthermore, as described in column 13, lines 22-26, "The interface mechanism also includes a single suspend mechanism and a single resume mechanism to provide for suspending and resuming the operation of each of the processor simulator tasks." In other words, the interface mechanism is more than just a communications module for passing information between the processor simulator and hardware simulator.

8-2. Applicants' argument (2) is not persuasive. In response to Applicants' argument that the references fail to show certain features of Applicants' invention, it is noted that the features upon which Applicants rely (i.e., the functional relationship of the target hardware and processor is preserved whether or not the execution is actually running in real time or not) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8-3. Applicants' argument (3) is not persuasive. As described in column 11, lines 22-32, "The interface mechanism is programmed to handle the communication between the processor simulator host processor, and the other host processors executing the processor simulator." Furthermore, as described in column 8, lines 48-50, "other types of interface mechanisms are possible, including using multiple threads, and using a complete or partial operating system." In other words, the interface mechanism is dependent on the operating system environment.

8-4. Applicants' argument (4) is persuasive. The rejections of claims 5-8, 10-13, 18-21, and 23-26 under 35 U.S.C. 102(b) in Office Action dated October 5, 2006, have been withdrawn.

Conclusion

9. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (571) 272-3777. The Examiner can normally be reached on 9:00 - 17:30.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kamini S. Shah can be reached on (571) 272-2279. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Herng-der Day H.D.
April 30, 2007


KAMINI SHAH
SUPERVISORY PATENT EXAMINER